**Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1. – 7. (Canceled).

8.      (New) A method of indicating a code group out of 32 code groups that a time division duplex (TDD) base station belongs to, the method comprising:

transmitting a primary synchronization code along with a plurality of secondary synchronization codes from the TDD base station, the plurality of secondary synchronization codes derived from a row of a Hadamard matrix and the secondary synchronization codes being quadrature phase shift keying modulated; wherein the code group of the TDD base station is indicated by the transmitted plurality of secondary synchronization codes and the 32 code groups are divided into a plurality of code group sets and each of the code group sets is identified by using a different set of secondary synchronization codes.

9.      (New) The method of claim 8 wherein the 32 code groups are divided into two code group sets and a first of the code group sets has codes 1-16 and a second of the code group sets has codes 17-32.

10.      (New) A time division duplex (TDD) base station having a code group out of 32 code groups comprising:

means for transmitting a primary synchronization code along with a plurality of secondary synchronization codes from the TDD base station, the plurality of

secondary synchronization codes derived from a row of a Hadamard matrix and the secondary synchronization codes being quadrature phase shift keying modulated; wherein the code group of the TDD base station is indicated by the transmitted plurality of secondary synchronization codes and the 32 code groups are divided into a plurality of code group sets and each of the code group sets is identified by using a different set of secondary synchronization codes.

11.     (New) The TDD base station of claim 9 wherein the 32 code groups are divided into two code group sets and a first of the code group sets has codes 1-16 and a second of the code group sets has codes 17-32.

12.     (New) A time division duplex (TDD) user equipment comprising:

means for receiving a primary synchronization code along with a plurality of secondary synchronization codes from a TDD base station, the TDD base station having a code group out of 32 code groups, the plurality of secondary synchronization codes derived from a row of a Hadamard matrix and the secondary synchronization codes being quadrature phase shift keying modulated; wherein the code group of the TDD base station is indicated by the received plurality of secondary synchronization and the 32 code groups are divided into a plurality of code group sets and each of the code group sets is identified by using a different set of secondary synchronization codes..

13.     (New) The TDD user equipment of claim 9 wherein the 32 code groups are divided into two code group sets and a first of the code group sets has codes 1-16 and a second of the code group sets has codes 17-32.